Testimony of James P. Rod
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before the House Committee on Commerce

Thank you for the opportunity to testify today at this field hearing. I am employed by National Audubon Society as manager of Constitution Marsh Sanctuary on the Hudson River in Garrison, New York. National Audubon Society is a private conservation organization headquartered in New York City comprised of more than 500,000 members. In addition to many other field locations, education centers and state field offices, the Society owns and/or manages approximately 100 wildlife sanctuaries around the country. Constitution Marsh is the only one of those Sanctuaries ever to have been listed as part of a federal Superfund Site (the Marathon Battery Site, Cold Spring, NY). My testimony today will deal primarily with my personal experiences as a manager in daily contact with the Site and my interactions with New York State and federal EPA officials as the Site was studied, remediated and restored. This is not in any way to be construed as National Audubon's official testimony regarding re authorization of Superfund legislation or any other matters beyond the scope of what is presented below.

Summary of major points

-1952- United States Army Corps of Engineers builds nickel/ cadmium battery factory for Army Signal and Supply Agency (Signal Corps.) in Cold Spring New York. Factory operates under a succession of private owners until 1979, discharging cadmium, nickel and cobalt into the Hudson River.

- 1970 - National Audubon Society assumes management of Constitution Marsh Sanctuary, the same year cadmium and nickel discharges from the Marathon Battery factory into adjacent Foundry Cove are discovered by Arthur Nathan, student intern for Natural Resources Defense Council.

-1972- US Attorney for the Southern District of NY sigrs Final Judgment in United States v. Marathon Battery Company, 70 Civ. 4110, requiring Marathon to dredge sediments above 900 parts per million cadmium.

- 1974 - Continued testing by National Audubon and other researchers show high levels of cadmium and nickel remaining in Cove. In 1983, Site placed on National Priorities List and includes East and West Foundry Cove, Battery Plant, adjacent Hudson River and Constitution Marsh.

- 1984 - With New York State Department of Environmental Conservation as lead agency, intensive sampling of sediment, water and biota begins. "Hot Spot" is discovered in Cove where sediments contained 171,000 ppm of cadmium and 156,000 ppm of nickel. (Bottom mud is 33 % pure heavy metal)

- 1985 - 1992 - Remedial investigations and feasibility studies undertaken. USEPA is lead agency. Remedial designs completed. USEPA negotiations lead to settlements with Potentially Responsible Parties (PRP's).

1993 -1995- Remediation proceeds around-the-clock Approximately 2,000 ConRail hopper cars remove nearly 200,000 cubic yards of sediments.

1996 - First year of sampling under 30-year Long Term Monitoring Plan. Site is delisted from NPL in October and purchased for public recreation and access in November by Scenic Hudson Land Trust, Inc..

Highlightsinclude aggressive negotiations by Region 2 USEPA project manager and attorneys resulted in cash settlements with all PRP's. No tax monies were used to remediate the Site, saving Superfund about $100 million. All parties reached consensus during RI/ FS and design stages. The Superfund program worked well on this Site. Cleanup is complete. Site open to public for visitation, recreation and education. Visitor Center built for Audubon by former battery plant owner.

In 1952, during the Korean War, the Army Corps of Engineers constructed a nickel/cadmium battery factory in Cold Spring New York (approximately SO miles north of New York City) for the Army Signal and Supply Agency (Signal Corps.). The factory made batteries for the NIKE missile guidance system and later for military and commercial aircraft use. After the Korean War, the plant was leased and finally sold to a succession of private owners who continued to operate it until 1979. The last owner of the battery manufacturing plant was Marathon Battery, who operated it from 1969 to 1979. Until 1965, liquid wastes containing nickel, cadmium and cobalt were discharged directly into the Hudson River through the Main Street storm sewer. At that time, a new water treatment plant opened in Cold Spring and New York State no longer allowed the discharge of cadmium through the plant. The waste was then diverted into the Kemble Avenue storm sewer which discharged directly into East Foundry Cove.

East Foundry Cove comprises about 30 acres of open water and 14 acres of tidal marsh. The Cove is hydrologically connected by tidal flows both to the Hudson River and to the 270-acre Constitution Marsh Sanctuary, managed by Audubon since 1970. During that same year, 1970, a college student intern working for the Natural Resources Defense Council, Arthur Nathan, discovered the discharge pipe in East Foundry Cove. Arthur collected samples of the greenish substance flowing from the pipe and brought them to the Audubon Sanctuary manager. Analysts showed the samples to contain large amounts of cadmium, nickel and cobalt. The results were forwarded to Whitney North Seymour, Jr., US Attorney for the Southern District of NY

who commenced a prosecution against Marathon for the illegal discharge (United States vs. Marathon Battery Company, 70 Civ. 4110). The Final Judgment required Marathon, Sonotone, Clevite and Gould to dredge portions of Foundry Cove which contained cadmium in excess of 900 parts per million (ppm) and to store the dredged materials in a lined vault on the battery plant grounds.

Approximately 5,000 cubic yards of sediments were dredged and placed in the vault by 1973 following which a "Satisfaction of Judgment" was filed. However, continuing studies by National Audubon Society, New York State Department of Environmental Conservation, New York University and others demonstrated that large areas of the Cove still contained sediments contaminated at levels exceeding 900 ppm. Indeed, studies would eventually show that the 1972-1973 dredging removed less than 5% of the contamination. As a result of these on-going studies, the site was proposed as a Superfund Site in 1981 and was placed on the National Priorities List in September, 1963. The Site as listed included East and West Foundry Cove, East Foundry Cove Marsh, Constitution Marsh Sanctuary, adjacent portions of the Hudson River, the battery plant building and grounds and adjacent residential yards.

In 1984, with New York State DEC as lead agency, remedial investigation/feasibility studies (RI/FS) were initiated, during which more than 1,200 samples of biota, soils, water and sediments were collected and analyzed. The studies defined the extent of cadmium contamination in the Cove and also confirmed the presence of cadmium in soils of the battery plant

grounds and adjacent residential properties In addition, Volatile Organic Compounds (VOC's) were discovered in the soils and ground water beneath the plant, and cadmium levels in dust within the battery plant building itself reached 120,000 ppm. Because much of the biota and other collection occurred in Constitution Marsh, I either assisted with the sampling or conducted portions of it. The following year, using funds provided by a grant from the Hudson River Foundation for Science and Environmental Research, I initiated a year-long study of muskrat reproduction and ecological success on the Site. Drastic declines in muskrat numbers had been noted in Constitution Marsh and no muskrats at all could be located in Foundry Cove, apparently because of the highly toxic sediments and vegetation. Populations of benthic organisms such as oligochaete worms were also greatly reduced. At the conclusion of the muskrat study, I discovered that juvenile muskrats made up only 17% of the population in Constitution Marsh but 86% in the control marsh upriver where there was no cadmium. Further, muskrats on the Superfund Site had highly elevated levels of cadmium in both their livers and kidneys. In fact, all biota sampled during the RI/ FS studies had elevated body burdens of cadmium, including such organisms as Marsh Wrens and their eggs, fish, turtles, crabs and even dragonflies, including several species of fish, crabs and birds regularly consumed by humans.

Discovery of the hitherto unknown "Hot Spot" near the former discharge pipe outfall by this witness and Dr. Ronald Sloan of the New York State DEC showed that this Site was the most heavily cadmium/nickel contaminated area known anywhere in the world. Cadmium levels of 171,000 ppm and nickel levels of 156,000 ppm were recorded, which meant that the bottom

mud in portions of the marsh was 33% pure, toxic heavy metals. Because both metals are highly toxic to humans as well as to wildlife, and both are elements, which means they will never break down into anything else, it was agreed that a solution that was "protective of human health and the environment," as required by USEPA, would require physical removal of the metals off-site. Between 19% and 1989, EPA signed Records of Decision (ROD's) on the various portions of the Site and the first cleanup work involved decontamination of the interior of the battery plant (then closed and being used as a book depository). The building was eventually completely demolished and removed.

During this time I worked closely and often with USEPA project manager, Joel Singerman, and later with the second (and current) project Manager, Pamela Tames, also Region 2, USEPA. Considering the extent and types of contamination present, this Site was beginning to rival Love Canal in complexity and in eventual projected cost of completion. By 1992, remedial designs had been completed for all three project areas and it was during this phase that I had the most frequent contact with EPA, often weekly. It is my testimony that those contacts were nearly always cordial, collegial and productive and led eventually to consensus on all the major issues of design and remediation.

While this on-the-ground work of design was on-going, Pamela Tames and Region 2 EPA attorneys were negotiating settlements with the Potentially Responsible Parties (PRP's) and eventually settled with all of them without litigation. This meant that the remediation proceeded smoothly and

efficiently and that Superfund monies were not spent on this project, thus saving the taxpayers about $100 million. Some of these settlements were complicated by the earlier consent decrees entered after the original dredging, and 1 give Region 2 staff great credit for being able to procure these settlements with the PRP's, particularly since most of the time Region 2 was operating with acting Regional Directors unfamiliar with the Site in detail.

Remediation of the remainder of the Site began in 1993, with crews working around-the-clock and was completed in 1995. At the end of the project, 194,000 cubic yards of treated contaminated sediments had been removed from the Site in about 2,000 ConRail hopper cars and transported to an EPA-approved landfill in Michigan. Following remediation, the 14-acre East Foundry Cove Marsh, which had been entirely removed, was replaced with clean sediments and replanted with tens of thousands of wetland plants In 19% the first full year of required Long Term Monitoring was completed. In October, following a public comment period, the Site was delisted and in November it was purchased by Scenic Hudson Land Trust who will be opening it to the public for passive and active recreation and education.

It is my belief that this project, considering its scope and complexity, was completed in a timely and effective fashion and that it is a good example of how the Superfund process can and did work. Again, I believe much of the credit goes to Region 2 EP.4 staff who made intelligent decisions, created effective working partnerships with Audubon, New York State DEC and other involved agencies and who kept the process moving toward completion. This is a Superfund success story in which all parties, and the

environment, won. After thirty years of abuse, a clean Site has been returned to the public benefit.

In conclusion, I am pleased to report that one of the PRP's, Gould Electronics of Eastlake, Ohio, has constructed for Audubon, at their expense, a visitor center at Sanctuary headquarters to tell the complex story of the remediation of this Site and to make our collection of documents available to researchers. This is yet another public benefit arising from the successful partnerships developed during this completed Superfund project.

Again, I thank you for the opportunity to submit this testimony and I would be pleased to answer your questions.